

REMARKS

Claims 62-63, 65-66, 68-69, 76-77, 79 and 89-139 are pending in this application. Claims 124-126, 130-132 and 134 have been withdrawn by the Examiner as being drawn to non-elected inventions. Although the Office Action Summary indicates that claims 62-63, 65-66, 68-69, 76-77, 79, and 89-123, 127-129, 133 and 135-139 are rejected in the instant application, the Examiner has not provided any ground for rejecting claims 92, 96, 98 and 127. Accordingly, Applicant respectfully submits that claims 92, 96, 98 and 127 should be indicated as allowed.

Claims 62, 66, 76, 90, 106-109 and 111 have been amended and new claims 140-141 have been added to clarify certain embodiments of the presently elected invention. Specifically, claims 62 and 76 have been amended to recite a biologically active isolated Tat protein in a form suitable for administration to a human. Support for the amendment can be found in the specification at, *inter alia*, page 10, lines 15-16 and 30-31. Claim 90 has been amended to clarify certain embodiments of the presently elected invention. The language of claims 66, 106-109 and 111 have been amended to reflect the amendment made in claim 62. Claim 109 has also been amended to correct a minor typographical error. New dependent claims 140-141 have been added to recite that the human is infected with HIV. Support for new claims 140-141 can be found in the specification at, *inter alia*, page 14, lines 15-18; and page 17, lines 8-13. No new matter has been added.

Upon entry of the present amendments, claims 62-63, 65-66, 68-69, 76-77, 79 and 89-141 will be pending in the present application.

I. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 112 SHOULD BE WITHDRAWN

Claims 62-63, 69, 77, 90-91 and 96 are rejected under 35 U.S.C. § 112, second paragraph ("Section 112, second paragraph"), as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner alleges that it is not clear how the characteristic of the term "purified" in claims 63 and 77 further limits the term "isolated" in claims 62 and 96.

As a preliminary matter, Applicant submits that the term "isolated" is not recited in claim 96. Instead, the term "isolated" is recited in claim 76, from which claim 77 depends.

The term "isolated", as understood by one of ordinary skill in the art, can mean "separated from others". See The American Heritage College Dictionary (3d ed. 1997), p.721 (see Exhibit 1). On the other hand, the term "purified", as understood by one of ordinary skill in the art, can mean "rid of impurities; cleanse[d]". *Id.* at p.1111 (see Exhibit

1). The two terms connote different meanings and are not interchangeable. In particular, the term “isolated” as recited in claims 62 and 76 is used to describe a biologically active Tat protein that has been separated from the Tat-expressing cells, while the term “purified” as recited in claims 63 and 77 is used to describe the further processing of the isolated biologically active Tat protein such that impurities are largely removed (see specification, Example 1). Contrary to the Examiner’s allegation, the characteristic of the term “purified” in claims 63 and 77 further limits the term “isolated” in claims 62 and 76, respectively. Accordingly, Applicant submits that the rejection is in error and should be withdrawn.

The Examiner also alleges that it is not clear what is meant by a lyophilized diluent/excipient in claims 69, 90 and 91. In particular, the Examiner alleges that if one were to lyophilize the composition of claim 62 which contains an excipient and/or diluent, that would remove the excipient and diluent, which are liquids (see Office Action, page 3, lines 15-18). Applicant respectfully disagrees for the following reasons.

Claim 69 does not specify a lyophilized excipient or diluent. Instead, the combination of the Tat protein, fragment or mutant thereof with excipient or diluent can be done after the biologically active Tat protein, fragment or mutant thereof is purified by lyophilizing and resuspending as recited in claim 69. Regarding amended claim 90 and claim 91, the excipient or diluent may or may not be removed by lyophilization, depending on its nature. Amended claim 90 and claim 91 cover both possibilities. Contrary to the Examiner’s allegation, the terms “excipient” and “diluent” are not necessarily liquids. There is no requirement in amended claim 90 and claim 91 or the specification that the excipient or diluent be a liquid. The terms “excipient” and “diluent”, as understood by one of ordinary skill in the art, can mean “[a]n inert substance used as a diluent or vehicle for drug” and “[a]n inert substance used to dilute”, respectively. See The American Heritage College Dictionary (3d ed. 1997), p.478 and p.389, respectively (see Exhibit 1). Excipients and diluents are not required to be liquids. An “inert” substance, as understood by one of ordinary skill in the art, can mean any substance that is “[n]ot readily reactive with other elements”, and are not necessary a liquid. Id. at p.695 (see Exhibit 1). Accordingly, the meaning of a lyophilized excipient and a lyophilized diluent is clear and this rejection is in error and should be withdrawn.

In view of the foregoing, Applicant respectfully submits that claims 62, 63, 69, 77, 90, 91 and 96 are not indefinite, and respectfully requests that the claim rejections under Section 112, second paragraph, be withdrawn.

II. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 102 SHOULD BE WITHDRAWN

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 106-107, 115, 120, 128-129, 133 and 137 are rejected under 35 U.S.C. § 102(b) ("Section 102(b)") as allegedly being anticipated by Chang *et al.* (AIDS. 1997 Oct;11(12):1421-31, "Chang"). Specifically, the Examiner alleges that the instant Tat protein appears to be the same protein as disclosed in the reference because it is from the same source and same purification protocol as described in Chang (see Office Action, page 5, lines 4-6). Applicant respectfully disagree.

Claims 62 and 76 have been amended to specify that the biologically active Tat protein is in a form that is suitable for administration to a human. For the following reasons, Applicant submits that amended claims 62 and 76, claims 63, 65-66, 68-69, 77, 79, 89-90, 93-94, 106-107, 115, 120, 128-129, 133 and 137, and new claims 140-141 are novel over Chang.

The legal test for anticipation under 35 U.S.C. § 102 requires that each and every element of the claimed invention be disclosed in a prior art reference in a manner sufficient to enable one skilled in the art to reduce the invention to practice, thus placing the public in possession of the invention. W.L. Gore Associates v. Garlock, Inc., 721 F.2d 1540, 1554 (Fed. Cir. 1983) cert. denied 469 U.S. 851 (1984); In re Donohue, 766 F.2d 531 (Fed. Cir. 1985).

Applicant submits that Chang does not teach or suggest each and every element of amended claims 62 and 76 and, thus, their dependent claims. In particular, Chang does not teach or suggest a biologically active Tat protein in a form suitable for administration to a human as recited in amended claims 62 and 76. For example, the eluted Tat protein in 2M NaCl would not be suitable for administration to a human. Moreover, the section cited by the Examiner disclosing raising rabbit polyclonal anti-Tat antibodies against Tat proteins is for raising antibodies in rabbits. It is well known that antigens administered to rabbits and mice for producing polyclonal antibodies are often combined with substances that cannot be administered to a human, *e.g.*, a Freund's adjuvant (see *e.g.*, specification, page 106, lines 22-26). Accordingly, Chang's disclosure of administering the Tat protein to rabbits for producing polyclonal antibodies in no way teaches the presently claimed biologically active Tat protein formulated for administration to a human.

As such, Chang also does not anticipate the rejected or new claims. Withdrawal of the Section 102(b) rejection is respectfully requested.

III. THE CLAIM REJECTIONS UNDER 35 U.S.C. § 103 ARE IN ERROR AND SHOULD BE WITHDRAWN

1. The Claims Are Patentable Over Chang in View of Chengalvala

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 106-107, 112, 115, 120, 128-129, 133 and 137 are rejected under 35 U.S.C. § 103(a) ("Section 103(a)") as allegedly being unpatentable over Chang in view of Chengalvala *et al.* (Vaccine. 1999 Mar 5;17(9-10):1035-41, "Chengalvala"). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to conjugate the T cell helper epitope of tetanus toxin of Chengalvala to the Tat protein of Chang (see Office Action, page 7, lines 8-11).

A finding of obviousness under 35 U.S.C. § 103 requires a determination of the scope and the content of the prior art, the differences between the invention and the prior art, the level of the ordinary skill in the art, and whether the differences are such that the claimed subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made. Graham v. Deere, 383 U.S. 1 (1966). The relevant inquiry is whether the prior art suggests the invention, and whether one of ordinary skill in the art would have had a reasonable expectation that the claimed invention would be successful. In re O'Farrell, 853 F.2d 894, 902-4 (Fed. Cir. 1988); In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Both the suggestion of the claimed invention and the expectation of success must be in the prior art, not in the disclosure of the claimed invention. In re Dow Chemical Co., 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988). In determining obviousness, "the inquiry is not whether each element existed in prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed." Hartness International Inc. v. Simplimatic Engineering Co., 819 F.2d 1100, 2 U.S.P.Q.2d 1826 (Fed. Cir. 1987).

The deficiencies in the teaching of Chang are discussed above. Moreover, the presently claimed invention is not obvious over Chang. Chang provides, at most, a mere invitation to experiment. As the Examiner is aware, an allegation that something may have been "obvious to try" cannot form an adequate basis for a rejection. In re O'Farrell, 853 F.2d 894, 7 U.S.P.Q.2d 1673 (Fed. Cir. 1988). Chang does not teach or suggest with a reasonable expectation of success the instant Tat protein in a form suitable for administration to a human.

Furthermore, Applicant submits that Chengalvala is not prior art to the instant application. The subject application is the national stage of International Application No. PCT/EP98/07721, filed November 30, 1998, which predate the publication date of

Chengalvala, *i.e.*, March 1999. Accordingly, the Examiner has improperly cited Chengalvala as prior art and this Section 103(a) rejection is in error and should be withdrawn.

2. The Claims Are Patentable Over Chang in View of Heiman

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 106-107, 113-115, 118-120, 128-129, 133 and 135-137 are rejected under Section 103(a) as allegedly being unpatentable over Chang in view of the web pages entitled “HIV Vaccines: Where are we Going?” (<http://www.niaid.nih.gov/daids/vaccine/1998nature.htm>, “Heiman”). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the protein of Chang with the antigens of Heiman with the expectation of at least an additive effect (see Office Action, page 8, lines 3-7).

As discussed above, Chang does not teach or suggest a biologically active Tat protein in a form suitable for administration to humans as recited in amended claims 62 and 76. Heiman does not cure the deficiency of Chang. While Heiman discloses a number of recent research findings that influence HIV vaccine design, Heiman does not teach or suggest a Tat protein, much less teach or suggest a biologically active Tat protein in a form suitable for administration to a human. Accordingly, the combination of Chang plus Heiman does not teach the presently claimed invention.

In view of the foregoing, Applicant respectfully submits that this Section 103(a) rejection is in error and respectfully requests the Examiner to withdraw the rejection.

3. The Claims Are Patentable Over Chang in View of Vogel

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-95, 97, 101-111, 115-117, 120-122, 128-129, 133 and 137-139 are rejected under Section 103(a) as allegedly being unpatentable over Chang in view of Vogel *et al.* (Vogel FR, Powell MF. 1995. A compendium of vaccine adjuvants and excipients. In: Powell MF, Newman MJ, editors. Vaccine design: The Subunit and Adjuvant Approach. Plenum, New York, “Vogel”). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the cytokine IL-2 to the composition of Chang with the expectation of favorably modulating the immune system (see Office Action, page 9, lines 2-6). The Examiner also alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the adjuvant alum to the composition of Chang (see Office Action, page 9, lines 12-15).

Applicant submits that this rejection under Section 103(a) is in error because there is no suggestion of the claimed invention in the combined teachings of the references. As discussed above, there is no teaching or suggestion in Chang of a biologically active Tat protein in a form suitable for administration to humans as recited in amended claims 62 and 76. Vogel does not cure the deficiency of Chang. In fact, Vogel does not even teach or suggest a Tat protein, much less teach or suggest a biologically active Tat protein in a form suitable for administration to a human. Instead, Vogel discloses a wide variety (*i.e.*, compendium) of organic and inorganic compounds that are useful for improving the immunogenicity of vaccines (see Vogel, p.1, ¶1). Accordingly, the combination of Chang plus Vogel does not teach the presently claimed invention.

In view of the foregoing, Applicant submits that neither reference, either alone or together, provides one of ordinary skill in the art with a suggestion or motivation to modify or combine the teaching of the other references to arrive at the claimed invention as recited in amended claims 62 and 76, *i.e.*, a biologically active Tat protein in a form suitable for administration to a human. Neither reference, either alone or together, teaches or suggests a biologically active Tat protein being in such form. Both the suggestion and the reasonable expectation of success of the claimed invention are lacking in the cited references. Accordingly, amended claims 62 and 76, and dependent claims 63, 65-66, 68-69, 77, 79, 89-90, 93-95, 97, 101-111, 115-117, 120-122, 128-129, 133 and 137-141 are not rendered obvious by the references.

In view of the foregoing, Applicant respectfully submits that this Section 103(a) rejection is in error and respectfully requests the Examiner to withdraw the rejection.

4. The Claims Are Patentable Over Chang in View of Hengge

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 106-107, 115, 120, 123, 128-129, 133 and 137 are rejected under Section 103(a) as allegedly being unpatentable over Chang in view of Hengge *et al.* (AIDS. 1998 Dec 3;12(17):F225-34, "Hengge"). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the addition of an antiviral composition in the composition of Chang to inhibit a viral disease (see Office Action, page 10, lines 7-10).

As discussed above, the subject application is the national stage of a PCT application that was filed on November 30, 1998, which predates the December 3, 1998 publication date of Hengge. A copy of a database printout showing the December 3, 1998 publication date of

Hengge is attached as Exhibit 2. Accordingly, the Examiner has improperly cited Hengge as prior art, and since as discussed above, Chang does not render the claims obvious, this Section 103(a) rejection is in error and should be withdrawn.

5. The Claims Are Patentable Over Chang in View of Castignolles

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 99, 106-107, 115, 120, 128-129, 133 and 137 are rejected under Section 103(a) as allegedly being unpatentable over Chang in view of Castignolles *et al.* (Vaccine. 1996 Oct;14(14):1353-60, "Castignolles"). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the nanoparticles of Castignolles with the Tat protein of Chang with the expectation of enhancing the immune response to the protein (see Office Action, page 10, line 22 to page 11, line 4).

Applicant submits that this rejection under Section 103(a) is in error because there is no suggestion of the claimed invention in the combined teachings of the references. As discussed above, there is no teaching or suggestion in Chang of a biologically active Tat protein in a form suitable for administration to a human as recited in amended claims 62 and 76. Castignolles does not cure the deficiency of Chang because Castignolles does not teach or suggest a Tat protein, much less teach or suggest a biologically active Tat protein in a form suitable for administration to a human. Instead, Castignolles discloses a new family of biovectors that are useful for enhancing the immunogenicity of rabies antigens (see Castignolles, Title). Accordingly, the combination of Chang plus Castignolles does not teach the presently claimed invention.

In view of the foregoing, Applicant submits that neither reference, either alone or together, provides one of ordinary skill in the art with a suggestion or motivation to modify or combine the teaching of the other references to arrive at the claimed invention as recited in amended claims 62 and 76, *i.e.*, a biologically active Tat protein in a form suitable for administration to a human. Neither reference, either alone or together, teaches or suggests a biologically active Tat protein being in such form. Both the suggestion and the reasonable expectation of success of the claimed invention are lacking in the cited references. Accordingly, amended claims 62 and 76, and dependent claims 63, 65-66, 68-69, 77, 79, 89-90, 93-94, 99, 106-107, 115, 120, 128-129, 133 and 137-141 are not rendered obvious by the references.

In view of the foregoing, Applicant respectfully submits that this Section 103(a) rejection is in error and respectfully requests the Examiner to withdraw the rejection.

6. The Claims Are Patentable Over Chang in View of Ramshaw

Claims 62-63, 65-66, 68-69, 76-77, 79, 89-90, 93-94, 100, 106-107, 115, 120, 128-129, 133 and 137 are rejected under Section 103(a) as allegedly being unpatentable over Chang in view of Ramshaw *et al.* (J Immunol Methods. 1977;18(3-4):251-5, "Ramshaw"). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to couple the Tat protein of Chang to autologous erythrocytes to efficiently induce an antibody response (see Office Action, page 11, lines 15-19).

Applicant submits that this rejection under Section 103(a) is in error because there is no suggestion of the claimed invention in the combined teachings of the references. As discussed above, there is no teaching or suggestion in Chang of a biologically active Tat protein in a form suitable for administration to a human as recited in amended claims 62 and 76. Ramshaw does not cure the deficiency of Chang because Ramshaw does not teach or suggest a Tat protein, much less teach or suggest a biologically active Tat protein in a form suitable for administration to a human. Instead, Ramshaw discloses that, on a dose basis, antigen coupled to autologous red blood cells is 1,000 to 10,000-fold more efficient at inducing an antibody response than the soluble form (see Ramshaw, Abstract). Accordingly, the combination of Chang plus Ramshaw does not teach the presently claimed invention.

In view of the foregoing, Applicant submits that neither reference, either alone or together, provides one of ordinary skill in the art with a suggestion or motivation to modify or combine the teaching of the other references to arrive at the claimed invention as recited in amended claims 62 and 76, *i.e.*, a biologically active Tat protein in a form suitable for administration to a human. Neither reference, either alone or together, teaches or suggests a biologically active Tat protein being in such form. Both the suggestion and the reasonable expectation of success of the claimed invention are lacking in the cited references. Accordingly, amended claims 62 and 76, and dependent claims 63, 65-66, 68-69, 77, 79, 89-90, 93-94, 100, 106-107, 115, 120, 128-129, 133 and 137-141 are not rendered obvious by the references.

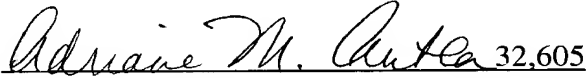
In view of the foregoing, Applicant respectfully submits that this Section 103(a) rejection is in error and respectfully requests the Examiner to withdraw the rejection.

CONCLUSION

Applicant respectfully requests entry of the amendments and remarks made herein into the file history of the present application. Withdrawal of the Examiner's rejections and an allowance of the application are earnestly requested. If any issues remain in connection herewith, the Examiner is respectfully invited to telephone the undersigned to discuss the same.

Respectfully submitted,

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Enclosures

THE

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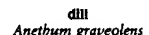
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[illegible]

dil·a·te (di-lā'tē) *v.* 1. To speak or write at great length; expatiate. [ME *dilaten* < OFr.: *dilatar* < Lat. *dilatāre*, to enlarge: *di-*, *dis-*, apart; see *dis-* + *lātus*, wide.] — **di-lat'a·b'il·i·ty** *n.* — **di-lat'a·b'le** *adj.* — **di-lat'a·b'ly** *adv.* — **di-la'tive** *adj.*
di-lat'ed (di-lā'tēd, di-lā'tēd) *adj.* 1. Having been widened; expanded. 2. Distended. — **di-lat'ed·ness** *n.*
di-la·tion (di-lā'shən, di-) *n.* 1. The act of expanding or the state of being expanded. 2. *Medic.* See *dilatation*.
dilation and curettage *n.* A surgical procedure in which the cervix is expanded with a dilator and the uterine lining scraped with a curette, performed to diagnose and treat certain uterine conditions.
dil·a·tom·e·ter (dil'ə-tōm'i-tēr, di-lā'-) *n.* An instrument used to measure thermal expansion and dilation in solids and liquids. [DILATE + -METER.] — **dil'a·to'met'ric** (tā-mēt'rik) *adj.* — **dil'a·tom'e·try** *n.*
di-lat'or (di-lā'tōr, di-lā'tē, di-lā'-) *n.* 1. A muscle that dilates a body part, such as a blood vessel. 2. An instrument that dilates a body part, such as a cavity, canal, or orifice.
dil·a·to·ry (dil'ə-tōr'ē, -tōr'ē) *adj.* 1. Intended to delay. 2. Tending to postpone or delay. [ME *dilatatorie* < Lat. *dilatōrius* < *dilatator*, delayer < *dilatūs*, p. part. of *differre*, to delay: *di-*, *dis-*, apart; see *dis-* + *lātus*, carried; see *tele-*.] — **dil'a·to'ri·ly** *adv.* — **dil'a·to'ri·ness** *n.*
dil·do also **dil·doe** (dill'dō) *n., pl. -dos* also **-does**. An object used as a substitute for an erect penis. [?]
di·lem·ma (di-lēm'mā) *n.* 1. A situation that requires a choice between equally unfavorable or mutually exclusive options. 2. *Usage Problem.* A problem that seems to defy a satisfactory solution. 3. *Logic.* An argument that presents a choice of two or more alternatives, each of which contradicts the original contention and is conclusive. [Lat. < Gk. *dilemma*, ambiguous proposition: *di-*, two; see *di-* + *lēmna*, proposition; see *lemma*.] — **dil'em'mat'ic** (dī-lēm'mā'tik) *adj.*
Usage Note: In its primary sense *dilemma* denotes a situation in which a choice must be made between alternative courses of action or argument. Although citational evidence attests to widespread use of the term meaning simply "problem" or "predicament" and involving no issue of choice, 74 percent of the Usage Panel rejected the sentence *Juvenile drug abuse is the great dilemma of the 1980's*.
dil·et·tante (dī-lē'tānt', di-lē'tānt', -tānt', -tānt', -tānt' (te) *n., pl. -tantes* also **-tan'ti** (-tānt', -tānt') *n.* 1. A dabbler in an art or a field of knowledge. 2. A lover of the fine arts; a connoisseur. — *adj.* Superficial; amateurish. [Ital.: arts-lover < p. part. of *dilattare*, to delight < Lat. *dilectāre*. See *de-light*.] — **dil'et·tan'tish** *adj.* — **dil'et·tan'tism *n.*
dil·i·gence (dī-lī-jəns) *n.* 1. Earnest, persistent application to an undertaking; assiduity. 2. Attentive care; heedfulness.
dil·i·gence² (dī-lī-jəns, dē'lē-zhəns') *n.* A large stagecoach. [Fr. < *carrosse* dē] *diligence*, speed (coach) < OFr. < Lat. *diligentia* < *diligens*, diligent. See *diligent*.]
dil·i·gent (dī-lī-jənt) *adj.* Marked by persevering, painstaking effort. [ME < OFr. < Lat. *diligens*, diligent; p. part. of *diligere*, to esteem; love: *di-*, *dis-*, apart; see *dis-* + *legere*, to choose; see *leg-*.] — **dil'i·gent·ly** *adv.*
dill (dill) *n.* 1. An aromatic herb (*Anethum graveolens*) native to Eurasia and having finely dissected leaves and small yellow flowers clustered in umbels. 2. The leaves or seeds of this plant, used as a seasoning. [ME *dile* < OE.]
dill pickle *n.* A pickled cucumber flavored with dill.
dil·ly (dill'ē) *n., pl. -lies*. *Slang.* One that is remarkable or extraordinary, as in size or quality: *had a dilly of a fight*. [Obsolete *dilly*, delightful, alteration of *delightful*.]
dil·ly·dal·ly (dī-lē-dāl'ē) *intr.v.* -lied, -lying, -lies. To waste time, esp. in indecision; dawdle or vacillate. [Redup. of *dilly*.] — **dil'ly·dal'li·er** *n.*
dil·u·ent (dī-lū-ōnt) *adj.* Serving to dilute. — *n.* *Chem.* An inert substance used to dilute. [Lat. *diluēns*, *diluētus*, p. part. of *diluire*, to dilute. See *laure*.]
di-lute (di-lū-ōt', di-) *tr.v.* -luted, -luting, -lutes. 1. To make thinner or less concentrated by adding a liquid. 2. To lessen the force, strength, purity, or brilliance of; esp. by admixture. — *adj.* Weakened; diluted. [Lat. *diluere*, *dilūtus*: *di-*, *dis-*, apart, away; see *dis-* + *luere*, to wash (< *lavare*; see *lau(e)-*).] — **di-lut'er**, **di-lut'or** *n.* — **di-lu'tive** *adj.*
di-lu·tion (di-lū'shən, di-) *n.* 1. a. The process of making weaker or less concentrated. B. A dilute or weakened condition. 2. A diluted substance. 3. A decrease in the equity position of a share of stock because of the issuance of additional shares.
di-lu·vi·al (di-lū-ē-vē-əl) also **di-lu·vi·an** (dī-vi·ən) *adj.* Of, relating to, or produced by a flood. [Lat. *diluvialis* < Lat. *diluvium*, flood < *diluere*, to wash away. See *laure*.]
dim (dim) *adj.* **dim·mer**, **dim·mest**. 1. a. Lacking in brightness: *a dim room*. b. Emitting only a small amount of light; faint. 2. Lacking luster; dull and subdued. 3. a. Faintly outlined; indistinct. b. Obscure to the mind or the senses: *a dim recollection*. See *Syns at dark*. 4. Lacking sharpness or clarity of understanding or perception. 5. Lacking keenness or vigor. — *tr. & intr.v.*
dimmed, **dim·ming**, **dimms**. To make or become dim. — *n.***



Industrial Revolution *n.* The comic changes brought about by the production.

union to which all the workers of along regardless of occupation.

as) adj. 1. Assiduous in work or te. Skillful; clever. — **in-dus'tri-ous-ness** *n.*

pl. -tries. 1. Commercial produc- A specific branch of manufacture ness. 3. The sector of an economy enterprises. 4. Industrial manage- n to a task or an endeavor; dili- study associated with a specified stria, skill < OFr. < Lat. *industria*, rious, diligent. See **ster-2a**.

it (-dwelt'), **-dwelling**, **-dwells**, animating or divine inner spirit, located or implanted inside some- reside within. — **in'dwell'er** *n.* ul Marie Théodore) Vincent d' ser who was a founder (1894) and torum in Paris.

g to to: Benedictine. 2. Made of; re- ine < OFr. < Lat. *-inus*, *-ina*, s (< Gk. *-inos*).

emical substance, esp.: a. Halogen: and: amine. c. Alkaloid: quinine. A mixture of compounds: *gasoline*. *assine*. [Ult. < Lat. *-inus* and *-inus*,

adj. Serving to intoxicate. — *n.* An

tr.v. -at-ed, -at-ing, -ates. 1. To to. To exhilarate or stupefy as if with xicated. — *n.* (-It). An intoxicated **brüt-**: *in-*, intensive pref.; see **in-** **ebrius**, drunk; see **eg'ph-**]. — **in-**

(-it'd) **adj.** Exhilarated or stupefied xicated.

i) n. Intoxication; drunkenness. **adj.** Unfit to be eaten; not edible. **-ed'ly** **adv.**

ly. 1. Not edited. 2. Not published. **-bal** **adj.** Incapable of being edu- **-ly** *n.*

ly. 1. Incapable of being expressed. 2. Not to be uttered; taboo. [ME *in-*, not; see **in-** + *effabilis*, ur- *ex-*, *ex-* + *fari*, to speak; see **ly**. **in'ef'fa-ble-ness** *n.* — **in-**

-bal **adj.** Impossible to efface; in- **ly** *n.* — **in'ef'face'a-bly** **adv.** **adj.** 1. Not producing an intended equate; incompetent. — **in'ef'fec- tive-ness** *n.*

hoo-al **adj.** 1. a. Insufficient to pro- neffectual effort. b. Useless; worth- less or effectiveness; weak: *an inef- tu'al'ly* (-äl'i-tē), *in'ef'fec'tu- al'ly* **adv.**

kä'shas **adj.** Not capable of pro- result; ineffective. — **in'ef'fi-ca- cious-ness** *n.*

sē *n.* The state or quality of being desired effect or result.

(-an-sē) *n.*, **pl. -cles.** 1. The quality, **g inefficient.** 2. An inefficient ac-

nt **adj.** 1. Not efficient, as: a. Lack- o perform effectively; incompetent. med result; ineffective. 2. Wasteful als. — **in'ef'ficient-ly** **adv.**

-gäl'l-tär'ē-on **adj.** Marked by or mic, or political inequality.

adj. Lacking elasticity; unyielding or t stiff. — **in'e-las-tic'ly** (-lā-

ision between two particles in which y is transformed to another form of of energy remaining the same.

us) *n.* Lack of refinement or polit- **adj.** Lacking refinement or polit- **ant-ly** **adv.**

al) **adj.** 1. Disqualified by law, rule, ty of being chosen; unfit. — **in-e-** **bly** **adv.**

vant) **adj.** Lacking eloquence. — **in-** **o-quent-ly** **adv.**

(-ta-bal) **adj.** Not to be avoided or

escaped; inevitable. [Lat. *ineluctabilis*: *in-*, not; see **in-** + *eluctabilis*, penetrable (< *eluctari*, to struggle out of: *ex-*, *ex-* + *luctari*, to struggle).] — **in'e-luc'ta-bil'i-ty** *n.* — **in'e-luc'ta-bly** **adv.**

in'ept (in-ēpt') **adj.** 1. Not apt or fitting; inappropriate. 2. a. Displaying a lack of judgment, sense, or reason; foolish. b. Bungling or clumsy; incompetent. [Lat. *ineptus*: *in-*, not; see **in-** + *aptus*, suitable; see **art-**.] — **in'ept'ly** **adv.** — **in-**

ept'ness, **in'ept'i-tude'** (-ēp'ti-tōod', -tyōod') *n.*

in-equal-i-ty (in'ē-kwōl'i-tē) *n.*, **pl. -ties.** 1. a. The condition of being unequal. b. An instance of being unequal. 2. a. Lack of equality, as of opportunity. b. Social or economic disparity: *the growing inequality between rich and poor.* 3. Lack of smoothness or regularity; unevenness. 4. Variability; changeability. 5. *Math.* An algebraic expression showing that a quantity is greater than or less than another quantity.

in-eq'u-l-ta-ble (in-ēk'wī-tā-bəl) **adj.** Not equitable; unfair. **in-eq'u-l-ta-bly** **adv.**

in-eq'u-ty (in-ēk'wī-tē) *n.*, **pl. -ties.** 1. Injustice; unfairness. 2. An instance of injustice or unfairness.

in-e-rad-i-ca-ble (in'ē-rād'i-kā-bəl) **adj.** Impossible to erad- icate or be eradicated. — **in'e-rad'i-ca-bly** **adv.**

in-e-ran-cy (in-ēr'an-sē) *n.* Freedom from error or untruths. **in-e-rant** (in-ēr'ant) **adj.** 1. Incapable of erring; infallible. 2. Containing no errors.

in-e-ran-tism (in-ēr'an-tiz'm) *n.* Belief in the inerrancy or literal truth of a particular writing or document. — **in-er'- ran-tist'** **adj.** & *n.*

in-ert (in-ūrt') **adj.** 1. Unable to move or act. 2. Sluggish in action or motion; lethargic. See **Syns** at **Inactive.** 3. *Chem.* Not readily reactive with other elements. [Lat. *iners*, inert: *in-*, not; see **in-** + *ars*, skill; see **ar-**.] — **in-ert'ly** **adv.** — **in-ert'ness** *n.*

in-ert-gas *n.* See noble gas.

in-er-gia (in-ūr'shā) *n.* 1. *Phys.* The tendency of a body at rest to remain at rest or of a body in motion to stay in motion in a straight line unless acted on by an outside force. 2. Resis- tance or disinclination to motion, action, or change: *bureau- cratic inertia*. [Lat., idleness < *iners*, inert, inert. See **INERT.**] — **in-er'tial** **adj.** — **in-er'tial-ly** **adv.**

in-er-tial *n.* Guidance of an aircraft or a spacecraft in which gyroscopic and accelerometer data are used by a com- puter to maintain a predetermined course.

in-es-cap-a-ble (in'ē-skā'pā-bəl) **adj.** Impossible to escape or avoid; inevitable. — **in'es-cap'a-bly** **adv.**

in-es-sen-tial (in'ē-sen'shāl) **adj.** 1. Not essential; unessen- tial. 2. Without essence. — *n.* Something that is not essential. — **in'es-sen'tial-i-ty** (-shē-äl'i-tē) *n.*

in-es-ti-ma-ble (in'ēs'tā-mā-bəl) **adj.** 1. Impossible to esti- mate or compute. See **Syns** at **Incalculable.** 2. Of immeasur- able value; invaluable. — **in-es'ti-ma-bly** **adv.**

in-ev-i-ta-ble (in-ēv'i-tā-bəl) **adj.** 1. Impossible to avoid or prevent. 2. Invariably occurring or appearing; predictable. — **in-ev'i-ta-bil'i-ty** *n.* — **in-ev'i-ta-bly** **adv.**

in-ex-act (in'ig-zākt') **adj.** 1. Not strictly accurate; not exact: *an inexact quotation.* 2. Not rigorous or meticulous: *an in-ex-act method.* — **in'ex-act'ly** **adv.** — **in'ex-act'ness** *n.*

in-ex-act-i-tude (in'ig-zākt'i-tōod', -tyōod') *n.* Lack of ex- actness; inexactness.

in-ex-cus-a-ble (in'ēk-skyōō'zā-bəl) **adj.** Impossible to ex- cuse or justify; unpardonable: *excusable behavior.* — **in'- ex-cus-a-ble-ness** *n.* — **in'ex-cus'a-bly** **adv.**

in-ex-haust-i-ble (in'ig-zō'stā-bəl) **adj.** 1. That cannot be depleted or used up. 2. Never wearying; tireless: *an inex-haustible campaigner.* — **in'ex-haust'i-bil'i-ty**, **in'ex-haust'i-ble-ness** *n.* — **in'ex-haust'ly** **adv.**

in-ex-is-tent (in'ig-zis'tant) **adj.** Having no existence; non- existent. — **in'ex-is'tence** *n.*

in-ex-or-a-ble (in-ēk'srā-bəl) **adj.** Incapable of being per- suaded by entreaty; relentless. [Lat. *inexorabilis*: *in-*, not; see **in-** + *exorābilis*, pliant (< *exorāre*, to prevail upon: *ex-*, intensive pref.; see **ex-** + *orāre*, to argue).] — **in'ex-o-ra- bil'i-ty**, **in'ex-o-ra-ble-ness** *n.* — **in'ex-o-ra-bly** **adv.**

in-ex-ped-i-ent (in'ēk-spē-dē-ant) **adj.** Not expedient; inad- visable: *an inexpedient tactic.* — **in'ex-ped'i-ent-ly** **adv.**

in-ex-pen-sive (in'ēk-spēn'siv) **adj.** Not high in price; cheap. — **in'ex-pen'sive-ly** **adv.** — **in'ex-pen'sive-ness** *n.*

in-ex-per-i-ence (in'ēk-spir'ē-ans) *n.* 1. Lack of experience. 2. Lack of the knowledge gained from experience. — **in'ex- per-i-enced** **adj.**

in-ex-pert (in-ēk'spūrt') **adj.** Not expert; unskilled. — **in- ex-pert'ly** **adv.** — **in'ex-pert'ness** *n.*

in-ex-pli-ca-ble (in-ēk'splē-kā-bəl) **adj.** 1. Impossible to expiate or atone for: *inexpiable crimes.* 2. Obsolete. Implacable. — **in-ex-pli-ca-bly** **adv.**

in-ex-plai-n-a-ble (in'ēk-splā'nā-bəl) **adj.** Difficult or impos- sible to explain; inexplicable. — **in'ex-plai-n'a-bly** **adv.**

in-ex-plic-a-ble (in-ēk'spli-kā-bəl, in'ēk-splik'ā-bəl) **adj.** Dif- ficult or impossible to account for. — **in'ex-plic-a-bil'i-ty**, **in-ex-plic-a-ble-ness** *n.* — **in'ex-plic'a-bly** **adv.**

in-ex-plic-it (in'ēk-splis'it) **adj.** Not explicit; indefinite.

in-ex-press-i-ble (in'ēk-sprēs'ā-bəl) **adj.** Impossible to ex- press; indescribable: *finally overcome her inexpressible grief.* — **in'ex-press'i-bil'i-ty**, **in'ex-press'i-ble-ness** *n.* — **in'- ex-press'i-bly** **adv.**

in-ex-pres-sive (in'ēk-sprēs'iv) **adj.** 1. Lacking expression; blank. 2. Devoid of emotion or style; flat or dull. — **in'ex- pres'sive-ly** **adv.** — **in'ex-pres'sive-ness** *n.*

in-ex-pug-na-ble (in'ēk-spūg'nā-bəl, -spyōō'nā) **adj.** 1. Im- possible to overcome or overthrow by force. 2. Impossible to put aside or drive away: *inexpugnable dislike*. [ME < OFr. < Lat. *inexpugnabilis*: *in-*, not; see **in-** + *expugnābilis*, capa- ble of being overcome (< *expugnāre*: *ex-*, completely; see **ex-** + *pugnāre*, to fight; see **IMPUGN**).] — **in'ex-pug-na-bil'i-ty** *n.* — **in'ex-pug-na-bly** **adv.**

in-ex-ten-si-ble (in'ēk-stēn'sā-bəl) **adj.** Not extensible.

in-ex-ten-so (in-ēk-stēn'sō) **adv.** At full length. [Lat.: *in*, at + *extēnsō*, ablative of *extēnsus*, stretch.]

in-ex-tin-guish-a-ble (in'ēk-sting'gwī-shā-bəl) **adj.** Difficult or impossible to extinguish. — **in'ex-tin'guish-a-bly** **adv.**

in-ex-tir-pa-ble (in'ēk-stūr'pā-bəl) **adj.** Difficult or impos- sible to eradicate or destroy.

in-ex-tre-mis (in-ēk-strē'mis) **adv.** 1. At the point of death. 2. In grave or extreme circumstances. [Lat.: *in*, in + *ex- trēmis*, ablative pl. of *extrēmus*, extreme.]

in-ex-tri-ca-ble (in-ēk'stri-kā-bəl, in'ēk-strik'ā-bəl) **adj.** 1. a. So intricate or entangled as to make escape impossible: *an inextricable maze.* b. Difficult or impossible to disentangle or untie. c. Too involved or complicated to solve. 2. Unavoidable; inescapable. — **in'ex-tri-ca-bil'i-ty**, **in'ex-tri-ca-ble-ness** *n.* — **in'ex-tri-ca-bly** **adv.**

Inf. **abbr.** 1. Also **Inf.** Infantry. 2. Inferior. 3. Infinitive. 4. In- finity. 5. Information.

in-fal-i-ble (in-fāl'ā-bəl) **adj.** 1. Incapable of erring. 2. Inca- pable of failing; certain. 3. *Rom. Cath.* Ch. Incapable of error in expounding doctrine on faith or morals. — **in-fal'i-bil'i- ty**, **in-fal'i-ble-ness** *n.* — **in-fal'i-bly** **adv.**

in-fa-mous (in'fā-məs) **adj.** 1. Having an exceedingly bad rep- utation; notorious. 2. Causing or deserving infamy; heinous: *an infamous deed.* 3. *Law.* a. Punishable by severe measures, such as death or long imprisonment. b. Convicted of a crime that carries such a punishment. [ME *infamis* < Lat. *infāmis*: *in-*, not; see **in-** + *fāma*, renown, fame; see **bhā-2a**.] — **in'- fa-mous-ly** **adv.** — **in'fa-mous-ness** *n.*

in-fa-my (in'fā-mē) *n.*, **pl. -mies.** 1. Evil fame or reputation. 2. The condition of being infamous. 3. An evil or criminal act that is publicly known. [ME *infamie*, dishonor < OFr. < Lat. *infāmia* < *infāmis*, infamous. See **INFAMOUS**.]

in-fan-cy (in'fan-sē) *n.*, **pl. -cies.** 1. The earliest period of childhood, esp. before the ability to walk has been acquired. 2. The state of being an infant. 3. An early stage of existence. 4. *Law.* The state or period of being a minor.

in-fant (in'fant) *n.* 1. A child in infancy. 2. *Law.* A person under the legal age of majority; a minor. — **adj.** 1. Of or being in infancy. 2. Intended for infants or young children. 3. Newly begun or formed. [ME < OFr. *enfant* < Lat. *infāns*, infant < *infāns*, not able to speak, young: *in-*, not; see **in-** + *fāns*, pr. part. of *fārī*, to speak; see **bhā-2a**.]

in-fan-ta (in-fān'tā, -fān'-) *n.* A daughter of a Spanish or Portuguese king. [Sp. and Port., fem. of *infante*, infant; see **INFANTE**.]

in-fan-tē (in-fān'tē, -fān'tā) *n.* A son of a Spanish or Portu- guese king other than the heir to the throne. [Sp. and Port., both < Lat. *infāns*, infant, infant. See **INFANT**.]

in-fan-ti-cide (in-fān'ti-sid') *n.* 1. The act of killing an in- fant. 2. The practice of killing newborn infants. 3. One who kills an infant. [LLat. *infanticidium*, the killing of a child and *infanticida*, killer of a child: Lat. *infāns*, infant, infant; see **INFANT** + Lat. *-cidium* and *-cida*, *-cide*.] — **in-fan'ti-cid'al** (-sid'l) **adj.**

in-fan-tile (in'fān-tīl', -tīl) **adj.** 1. Of or relating to infants or infancy. 2. Displaying or suggesting a lack of maturity; ex- tremely childish: *infantile behavior*. [ME *infantil* < Lat. *infāntilis* < *infāns*, infant, infant. See **INFANT**.]

Infantile autism *n.* *Psychol.* A severe disorder of childhood characterized by withdrawal, preoccupation with fantasy, lan- guage impairment, and ritualistic behavior.

Infantile paralysis *n.* See poliomyelitis.

in-fan-ti-lism (in'fān-tī-liz'm, in-fān'tī-) *n.* 1. A state of ar- rested development in an adult, characterized by retention of infantile mentality and accompanied by stunted growth and sexual immaturity and often by dwarfism. 2. a. Extreme im- maturity, as in behavior or character. b. An infantile act or remark.

in-fan-ti-lize (in'fān-tī-liz', in-fān'-) *tr.v.* -ized, -iz-ing, -iz- es. 1. To reduce to an infantile state or condition. 2. To treat or condescend to as if still a young child. — **in-fan'ti-l'ize'** (-tī-zā'shən) *n.*

in-fan-tine (in'fān-tīn', -tīn) **adj.** Infantile; childish.

in-fan-try (in'fān-trē) *n.*, **pl. -tries.** The combat arm made up of units trained to fight on foot. [Fr. *infanterie* < OFr. < Ital. *infanteria* < *infante*, youth, foot soldier < Lat. *infāns*, infant, infant. See **INFANT**.]



Infanta
The Infanta Margarita,
c. 1653, by Velázquez

ā pat	oi boy
ā pay	ou out
ār care	ōō too
ā father	ōō boot
ē pet	ū cut
ē be	ūr urge
ī plt	th thin
ī ple	th this
ir pler	hw which
ō pot	zh vision
ō toe	ō about
ō paw	item

Stress marks:
' (primary);
' (secondary), as in
dictionary (dik'shā-nēr'ē)

lity: *heroism*. 3. a. State; condition; rate or condition due to an excess of *yechnism*. 4. Distinctive or characteristic. Doctrine; theory; system of principle of prejudice against a given *me* < OFr. < Lat. *-ismus* < Gk.

also *Isma·li·an* (i-sā-lī'an) *n.* A *ihism* that follows a living imam and philosophy. [Ar. *Isma'īlī*, after *Isma'il* h. imam, Jafar (700?–765).] *'a*, is'(-). A city of NE Egypt on the 1863. Pop. 191,700.

al; uniform: *isobar*. 2. Isomeric: *isot*.

(i'sō-gōt' n-ā'shān) *n.* The agglu- cells of an individual by antibodies individual of the same species.

-gōt' n-in) *n.* An isantibody nor- tum of an individual that causes iso-

in'tē-bōd'ē) *n., pl. -les*. An antibody from the same species as the antigen

't-jān) *n.* A protein or other antigenic *ly* some members of a species and antibody production in those mem-

an'ti-gēn'ic (jēn'ik) *adj.*

A line on a weather map connecting iseric pressure. 2. Any of two or more the same atomic mass but different

Gk: *baros*; weight; see *gēra* 1.

-bāf'(-) *adj.*

krō-māt'ik) *adj.* 1. Having the same sed of light. 2. Orthochromatic.

-nal) or *isoch·ro·nous* (-nas) *adj.*

2. Marked by or occurring at equal [Lat. *isochronus* < Gk. *isochronos* time.]

-isoch·ro·nal'y *adv.* — *isoch·ro·nize* *tr.v.*

rō-as) *adj.* Having the same color roos: *iso*; *iso* + *chrōs*, flesh, color.]

il) or *isoch·lin·ic* (-klin'ik) *adj.*

etic inclination or dip. — *n.* See *iso·nal'y* *adv.*

Geol. An anticline or a syncline in the two sides are nearly parallel. *il* on a map connecting points of equal

ēz'). 436–338 B.C. Athenian rhetor- a valuable source of Greek thought.

3-dī'(-mēt'rik) *adj.* Having equal di-

i-nām'ik) *adj.* 1. Having equal force ing points of equal magnetic intensity.

ik'rik) *adj.* Having equal electric po-

sō-lēk-trōn'ik, -lēk-) *adj.* Having rons or the same electronic configura-

zīm') *n.* Any of the chemically distinct at perform the same biochemical func-

le) *adj.*

n'ēt', -gō-mēt') *n.* A gamete that has ture as the one with which it unites.

ē) *n., pl. -mies*. Reproduction by the of isogametes. — *isog·a·mous* *adj.*

ēs) *adj.* Having the same or similar or- rom the same embryonic tissue.

-glōs') *n.* A geographic boundary line which a given linguistic feature occurs niguage, tongue.] — *isoglossal* *adj.*

A polygon whose angles are equal

'o·nal (i-sōg'ō-nal) *adj.*

on a map connecting points of equal

n. See *isoline*.

A line drawn on a map connecting al amounts of sunlight. [so- + Gk.

n. *Microbiol.* An isolated strain. — *is·o·la·tor* *n.*

is·o·lat·ed (i'sō-lā'tēd) *adj.* Separated from others; solitary.

[< Fr. *isolé* < Ital. *isolato* < Lat. *insulatus*, made into an

island < *insula*, island.]

is·o·la·tion (i'sō-lā'shān) *n.* 1. The act of isolating. 2. The

quality or condition of being isolated.

is·o·la·tion·ism (i'sō-lā'shā-niz'm) *n.* A national policy of

abstaining from political or economic relations with other

countries. — *is·o·la·tion·ist* *n.*

is·o·le (i-sō-lē) *n.* Var. of *isoleucine*.

is·o·leu·cine (i'sō-lō'sēn) *n.* An essential amino acid,

C₆H₁₃NO₂, that is isomeric with leucine.

is·o·line (i'sō-līn) *n.* A line on a map, chart, or graph con-

necting points of equal value.

is·o·mag·net·ic (i'sō-māg-nēt'ik) *adj.* Of, relating to, or be-

ing lines connecting points of equal magnetic force.

is·o·mer (i'sō-mēr) *n.* 1. *Chem.* Any of two or more sub-

stances that are composed of the same elements in the same

proportions but differ in properties because of differences in

the arrangement of atoms. 2. *Phys.* Any of two or more nuclei

with the same mass number and atomic number but different

energy states and radioactive properties. — *is·o·mer·ic*

(mēr'ik) *adj.*

isomerase (i-sōm'ē-rās') *n.* One of a group of enzymes

that catalyzes the conversion of one isomer into another.

isomeric (i-sōm'ē-riz'm) *n.* 1. The existence of isomers.

2. The complex of phenomena characteristic of or attributa-

ble to isomers. 3. The state or condition of being an isomer.

isomeric (i-sōm'ē-riz') *v.* -ized, -iz-ing, -iz-es, -tr. To

cause to change into an isomeric form. — *intr.* To become

changed into an isomeric form. — *isom'er·ic·iza·tion* (-rē-

zā'shān) *n.*

isom'erous (i-sōm'ē-rō-s) *adj.* 1. Having an equal number

of parts, as organs or markings. 2. Having or being floral

whorls with equal numbers of parts.

isom'etric (i'sō-mēt'rik) also *isom'et·ric·al* (-rē-kal)

adj. 1. Of or exhibiting equality in dimensions or measure-

ments. 2. Of or being a crystal system of three equal axes

lying at right angles to each other. 3. *Physiol.* Of or involving

muscular contraction against resistance in which the length of

forces tending to depress landmasses. [so- + Gk. *stasis*, a

standstill; see *stā* + -y².]

is·o·therm (i'sō-thūrm) *n.* A line drawn on a weather map

or chart linking all points of equal or constant temperature.

is·o·ther·mal (i'sō-thūr'māl) *adj.* 1. Of, relating to, or indi-

cating equal or constant temperatures. 2. Of or being changes

of pressure and volume at constant temperature. 3. Of or

relating to an isotherm. — *n.* An isotherm.

is·o·tone (i'sō-tōn) *n.* One of two or more atoms whose

nuclei have the same number of neutrons but different num-

bers of protons. [Alteration of *isotomē* (with *n* for *neutron*

replacing *p* for *proton*).]

is·o·ton·ic (i'sō-tōn'ik) *adj.* 1. Of equal tension. 2. Isosmot-

ic. 3. Having the same concentration of solutes as the blood.

4. *Physiol.* Of or involving muscular contraction in which the

muscle stays under relatively constant tension while changing

length. [so- + Gk. *tonos*, tension; see *tone* + -ic.] — *is·o·ton·ic·al·ly* *adv.* — *is·o·ton·ic·ity* (-tō-nis'i-tē) *n.*

is·o·tope (i'sō-tōp) *n.* One of two or more atoms having the

same atomic number but different mass numbers. [so- + Gk.

topos, place (the isotopes of a chemical element occupying the

same position in the periodic table of elements).] — *is·o·top·ic* (-tōp'ik) *adj.* — *is·o·top·ic·al·ly* *adv.*

isotopic spln *n.* An isospin.

is·o·tro·pic (i'sō-trōp'ik, -trōp'ik) *adj.* Identical in all direc-

tions; invariant with respect to direction. — *is·ot·ro·py* (i-

sōt'rō-pē), *is·ot·ro·plism* (-plz'm) *n.*

is·o·zyme (i'sō-zīm') *n.* An isoenzyme. [so- + (EN)ZYME.]

Isr. *abbr.* Israel; Israeli.

Is·ra·el (i'zrā-ēl) *n.* 1. *Bible.* a. Jacob. b. The descendants of

Jacob. 2. *Judaism.* The Hebrew people, regarded as the cho-

sen people of God by the covenant of Jacob. [ME < OE <

Lat. < Gk. *Israel* < Heb. *yisra'el*.]

Is·ra·el (i'zrā-ēl) *n.* 1. An ancient kingdom of SW Asia found-

ed by Saul c. 1025 B.C. After 933 it split into the Northern

Kingdom, or kingdom of Israel, and the kingdom of Judah to

the S. 2. A country of SW Asia on the E Mediterranean Sea;

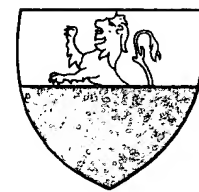
created in 1948 on recommendation of the United Nations.

Cap. Jerusalem. Pop. 4,141,400.

Is·ra·el·li (i'zrā-ēl'ē) *n., pl. -lls*. A native or inhabitant of

modern-day Israel. — *Is·ra·el·ly* *adj.*

Is·ra·el·ite (i'zrā-ēl'itē) *n.* 1. A native or inhabitant of an-



Issuant

cient Israel. 2. A descendant of Jacob; a Jew. 3. A Jew not

descended from the tribe of Levi. 4. A member of a people

regarded as the chosen people of God. — *adj.* also *Is·ra·el·it·ic* (i'zrā-ēl'it'ik). Of or relating to ancient Israel, the

ancient Israelites, or their culture.

Is·sa·char (i'sā-kār') *n.* In the Bible, a son of Jacob and Leah

and the forebear of one of the tribes of Israel.

Is·sel (ēs'sā') *n., pl. Issel* or *-sels*. A Japanese immigrant, esp.

one to the United States. [J.: is, first + sei, generation.]

ISSN *abbr.* International Standard Serial Number.

Is·su·a·ble (i'sh'ō-bā) *adj.* 1. Authorized for issue or to be

issued: *issuable currency*. 2. Open to debate or litigation.

3. That can be accrued: *issuable profits*.

Is·su·ance (i'sh'ō-āns) *n.* 1. The act of issuing. 2. An issue.

Is·su·ant (i'sh'ō-ānt) *adj.* 1. *Her.* Being an animal with only

the upper part depicted. 2. *Archaic.* Emerging.

Is·sue (i'sh'ō) *n.* 1. a. The act or an instance of flowing, pass-

ing, or giving out. b. The act of circulating, distributing, or

publishing by an office or official group. 2. Something pro-

duced, published, or offered, as: a. An item or set of items, as

stamps or coins, made available at one time by an office or

bureau. b. A single copy of a periodical. c. A distinct set of

copies of an edition of a book distinguished from others by

print variations. d. A final result or conclusion, as a solution

ā pat	oi boy
ā pay	ou out
ār care	ōō tōk
ā father	ōō bōt
ē pet	ū cut
ē be	ūr urge
ī plt	th thin
ī ple	th this
ī pler	hw which
ō pot	zh vision
ō toe	ā about
ō paw	ī item

Stress marks:
' (primary);
' (secondary), as in
dictionary (dīk'shō-nēr'ē)

aving jointed parts animated from a marionette. 3. A toy representing One whose behavior is determined. *poppet*, doll, poss. < AN *poppe*.

One who entertains with and operates.

.-ries. 1. The art of making puppets. 2. The actions of puppet, dramatic performance.

stellation in the Southern Hemisphere. [Lat. *puppis*, stern, poop.] s. 1. A young dog; a pup. 2. A n; a pup. [ME *popi*, small pet dog, < VLat. **puppa* < Lat. *pūpa*.]

Resembling a puppy. *ive* or infatuation.

1. Having poor vision; nearly or understanding or discernment; dull. 2. blind. [ME *pur blind*, totally blind, esp. *pur* < *blind*, blind; see *blind*.] *r'blind/ness* n.

1 Mills. 1912-97. Amer. physician Prize.

Henry. 1659?-95. English com-Didon and Aeneas (1689).

.-bal adj. 1. That can be bought; 2. venal. — *pur'chas-a-bil'i-ty* n. chased, *chas-ing*, *chas-es*. 1. To

on or its equivalent; buy. 2. To move or hold with a mechanical - n. 1. a. The act or an instance of

ght. c. Acquisition through the pay-ivalent. 2. A grip applied manually something or prevent it from slip- a lever, used to obtain mechanical as of a lever, affording means to i. a. A means of increasing power or that is used in exerting one's pow- purchase < OFr. *purchacier* < see *per*!*) + *chacier*, to chase; see

curtain or screen, used mainly in grate from men or strangers. b. The of sex segregation, practiced sep- on. 2. Social selection. [Urdu *par- pardak* < OPer. **paridaka* < ari, around, over; see *per*!*) + *dā*,

rest. 1. Having a homogeneous or mixed. 2. Free from adulterants or defilement, or pollution. 4. Free of aining nothing inappropriate or ex- iter. 7. Having no faults; sinless. Of unmixed ancestry; purebred. If-fertilization or continual inbreed- ing. Free from discordant qualities. i a single unchanging speech sound. owl. 13. Theoretical; pure scien- cal elements: *pure reason*. [ME *pur* < *peua*.*] — *pure'ly* adv. — *pur-*

sheer, simple, unadulterated. The y these adjectives is "free of extral- d; absolute alcohol: *sheer wine*; a terated coffee.

also *pure-blood-ed* (-blūd'id) adj. rebred. — *pure blood'* n. adj. Of a recognized strain estab- lish of unmixed lineage over many 'bred'). A purebred animal.

tr.v. -*réed*, -*réed-ing*, -*rées*. To mix (food) in a blender. — n. Food blending. [< Fr., *purée* < OFr. < *purare*, to purify

.-filing, -*fles*. To finish or decorat- n. also *pur-filing* (-filing). An orna- [ME *purfilen* < OFr. *purfil* < *ro*-, forth; see *pro*-! + Lat. *filum*,

) n. The act of purging or purifying. d. Tending to cleanse or purge, esp. : bowels. — n. A purgative agent or

r', -tōr'ē, -tōr'ē. A river of SE CO m to the Arkansas R. *ōr'ē-al, -tōr'ē* adj. 1. Serving to po- Of or resembling purgatory. *r'ē, -tōr'ē* n., pl. -*ries*. 1. Rom- ch the souls of those who have died

in grace must expiate their sins. 2. A place or condition of suffering, expiation, or remorse. — adj. Tending to cleanse or purge. [ME *purgatorie* < OFr. *purgatoire* < Med.Lat. *pūrgatorium* < LLat., means of purgation < neut. of *pūrgātorius*, cleansing < Lat. *pūrgāre*, to cleanse. See *purge*.]

purge (pūrj) v. *purged*, *purg-ing*, *purg-es*. — tr. 1. a. To free from impurities; purify. b. To remove (impurities and other elements) by or as if by cleansing. 2. To rid of sin, guilt, or defilement. 3. Law. To clear (a person) of a charge or an imputation. Often used with respect to contempt of court.

4. a. To rid (a nation, for example) of people considered undesirable. b. To get rid of (people considered undesirable).

5. Medic. a. To cause evacuation of (the bowels or stomach). b. To induce evacuation of the bowels or stomach (in an individual). — intr. 1. To become pure or clean. 2. Medic. To undergo or cause an emptying of the bowels or stomach. — n.

1. The act or process of purging. 2. Something that purges, esp. a medicinal purgative. [ME *purgen* < OFr. *purgier* < Lat. *pūrgāre* < *pūrus*, pure. See *peua*.*] — *purg'er* n.

pur'ri (pōr'ē) n. Var. of *poor*.

pur'ri-fi-ca-tion (pyōr'ā-fi-kā'shən) n. The act or an in-

stance of cleansing or purifying.

pur'ri-fi-ca-tor (pyōr'ā-fi-kā'tor) n. Eccles. A cloth used to

clean the chalice after the celebration of the Eucharist.

pur'ri-fy (pyōr'ā-fi') v. -*fled*, -*fy-ing*, -*fies*. — tr. 1. To rid of impurities; cleanse. 2. To rid of foreign or objectionable elements. 3. To free from sin, guilt, or other defilement. — intr. To become clean or pure. [ME *purifien* < OFr. *purifier* < Lat. *pūrificāre* < *pūrus*, clean; see *peua*.* + *-ficāre*, -*fy*.] — *pu-*

ri-fi-ca-to'ry (pyōr'ā-fi-kā-tōr'ē, -tōr'ē) adj. — *pu'ri-fi-*

pur'im (pōr'im, pōrēm') n. Judaism. The 14th of Adar, observed in celebration of the delivery by Esther of the Persian Jews from massacre. [Heb. *pūrim*, pl. of *pūr*, lot (from the lots Haman cast to decide the day of the massacre, Esther 9:24-26) < Akkadian *pūru*, lot.]

pur'ine (pyōr'en') n. 1. A crystalline organic base, C₅H₄N₄, that is the parent compound of various biologically important derivatives. 2. Any of a group of organic compounds derived from or structurally related to purine, including uric acid and the nucleic acid constituents adenine and guanine. [Ger. *Purin* < Lat. *pūrus*, clean; see *peua*.* + NLat. *uricus*, uric, uric (< Gk. *ouron*, urine) + *-in*, n. suff. (< Fr. *-ine*; see *-in*).]

pur'ism (pyōr'iz'm) n. 1. Strict observance of or insistence on traditional correctness, esp. of language. 2. An example of purism.

pur'ist (pyōr'ist) n. One who practices or urges strict cor- rectness, esp. in the use of words. — *pu-ris'tic* (pyōr'is'tik) adj. — *pu-ris'ti-cal-ly* adv.

pur'itan (pyōr'i-tən) n. 1. A member of a group of English Protestants who in the 16th and 17th centuries advocated strict religious discipline and simplification of the ceremonies and creeds of the Church of England. 2. *puritan*. One who lives in accordance with strict religious or moral precepts, esp. one who regards pleasure as sinful. — adj. 1. Of or relating to the Puritans or Puritanism. 2. *puritan*. Characteristic of a puritan; puritanical. [< LLat. *pūritās*, purity < Lat. *pūrus*, pure. See *peua*.*]

pur'i-tan-i-cal (pyōr'i-tān'i-kəl) adj. 1. Rigorous in religious observance; marked by stern morality. 2. *puritanical*. Of, relating to, or characteristic of the Puritans. — *pu'ri-tan'i-*

cal-ly adv. — *pu'ri-tan'i-cal-ness* n.

pur'i-tan-ism (pyōr'i-tān-i-z'm) n. 1. The practices and doc-

trines of the Puritans. 2. *puritanism*. Scrupulous moral rigor,

hostility to social pleasures and indulgences.

pur'i-ty (pyōr'i-tē) n. 1. The quality or condition of being

pure. 2. Freedom from sin or guilt; innocence; chastity.

3. The absence in speech or writing of elements deemed in-

appropriate to good style. 4. *Color*. The degree to which a

color is free from being mixed with other colors.

pur'kin-je cell (pūr'kin'jē) n. A large, drop-shaped, densely

branching neuron that is the characteristic cell of the cerebel-

lar cortex. [After Johannes Evangelista von Purkinje (1787-

1869), Bohemian physiologist.]

pur'kinje fiber n. One of a network of specialized cardiac mus-

cle fibers that rapidly transmit impulses from the atrioven-

tricular node to the ventricles.

pur'le (pūr) intr.v. *purled*, *pur-ing*, *pur-les*. To flow or ripple

with a murmuring sound. — n. The sound made by rippling

water. (Prob. of Scand. orig.)

pur'le also *pearl* (pūr) — v. *purled*, *pur-ing*, *pur-les* also

pearled, *pearl-ing*, *pearls*. — tr. 1. To knit (yarn) with a

purle stitch. 2. To edge or finish (a handkerchief, for example)

with lace or embroidery. — intr. 1. To do knitting with a pur-

le stitch. 2. To edge or finish with lace or embroidery. — n.

1. A variation of a knit stitch; purle stitch. 2. A decorative ed-

ging of lace or embroidery. 3. Gold or silver wire used in em-

broidery. [?]

pur'leu (pūr'lēu, pūr'lōu) n. 1. An outlying or neighboring

territory. 2. *purleus*. Outskirts; the environs. 3. A place one fre-

quently visits. [ME *purleue*, piece of land on the edge of a forest,

alteration of *porale*, *purale*, royal perambulation <

OFr. *porale* < *poraler*, to traverse: *por*-, forth (< Lat. *prō*-, see *pro*-!) + *aler*, *aller*, to go; see *alley*!.]

pur'lin also *pur'line* (pūr'lin) n. One of several horizontal

timbers supporting the rafters of a roof. [ME.]

pur'loin (pār-loin', pūr'loin') v. -*loined*, -*loin-ing*, -*loins*.

— tr. To steal, often in a violation of trust. — intr. To commit

theft. [ME *purloinen*, to remove < AN *purloigner*: *pur*-,

away (< Lat. *prō*-, see *pro*-!) + *loign*, far (< Lat. *longē* <

longus, long; see *del*-!*)] — *pur'loin'er* n.

pur'le stitch n. An inverted knitting stitch, often alternated with

the knit stitch to produce a ribbed effect.

pu-ro-my-cin (pyōr'ā-mī'sin) n. An antibiotic,

C₂₂H₂₉N₃O₅, obtained from the soil bacterium *Streptomyces*

alboniger and used experimentally as an inhibitor of protein

synthesis. [PUR(INE) + -MYCIN.]

pur'ple (pūr'pal) n. 1. *Color*. Any of a group of colors with a

hue between that of violet and red. 2. Cloth of a color be-

tween violet and red, once a symbol of royalty or high office.

3. Imperial power; high rank. — adj. 1. *Color*. Of the color

purple. 2. Royal or imperial; regal. 3. Elaborate and ornate.

— tr. & intr.v. -*pled*, -*pling*, -*ples*. To make or become purple.

[ME < OE *purpula* < *purpure*, purple garment < Lat. *purpura*

< Gk. *porphura*, a shellfish yielding purple dye.]

purple grackle n. The common grackle (*Quiscalus quiscula*) of

eastern North America having iridescent blackish-purple

plumage and a long keel-shaped tail.

pur'ple heart (pūr'pal-härt') n. 1. A tropical tree (*Peltogyne*

paniculata) native to Guiana and Trinidad and having very

hard durable brown wood that turns a purple color on ex-

posure. 2. The purplish heartwood of this tree.

Pur'ple Heart (pūr'pal) n. A U.S. military decoration awarded

to members of the armed forces wounded in action.

purple loosestrife n. An Old World marsh plant (*Lythrum*

salicaria) having long spikes of purple flowers.

purple martin n. A large North American swallow (*Progne*

subis) having glossy blue-black plumage and a light-colored

breast in the female.

pur'plish (pūr'plish) adj. *Color*. Somewhat purple.

pur'port (pār-pōrt', -pōrt') tr.v. -*port-ed*, -*port-ing*, -*ports*.

1. To have or present the often false appearance of being or

intending; profess. 2. To have the intention of doing; purpose.

— n. (pūr'pōrt', -pōrt'). 1. Meaning presented, intended, or

implied; import. 2. Intention; purpose. [ME *purporten*, to set

forth < AN *purporter*: *pur*-, forth (< Lat. *prō*-, see *pro*-!) +

porter, to carry (< Lat. *portāre*; see *per*!*)] — *pur'port-*

ed (pār-pōrt'id, -pōrt'id) adj. Assumed to be such;

supposed. — *pur'port-ed-ly* adv.

pur'pose (pūr'pəs) n. 1. The object toward which one strives

or for which something exists; an aim or a goal. 2. A result

or an effect that is intended or desired; an intention. See *Syns*

at *Intention*. 3. Determination; resolution. 4. The matter at

hand; the point at issue. — tr.v. -*posed*, -*pos-ing*, -*pos-es*.

To intend or resolve to perform or accomplish. — *Idioms*. on

purpose. Intentionally; deliberately. to *good purpose*. With

good results. to *little* (or *no*) *purpose*. With few or no results.

[ME *purpos* < AN < *purposer*, to intend: *pur*-, forth (< Lat.

prō-, see *pro*-!) + *poser*, to put; see *rose*!.]

pur'pose-ful (pūr'pəs-fəl) adj. 1. Having a purpose; inten-

tional. 2. Having or manifesting purpose; determined.

— *pur'pose-ful-ly* adv. — *pur'pose-ful-ness* n.

pur'pose-less (pūr'pəs-lis) adj. Lacking a purpose; meaning-

less or aimless. — *pur'pose-less-ness* n.

pur'pose-ly (pūr'pəs-lē) adv. With specific purpose.

pur'po-sive (pūr'pə-siv) adj. 1. Having or serving a purpose.

2. Purposeful. — *pur'po-sive-ness* n.

pur'pu-ra (pūr'pə-rə, -pə-rə) n. A condition characterized by

hemorrhages in the skin and mucous membranes that result in

the appearance of purplish spots or patches. [Lat., purple. See

PURPLE.] — *pur'pu'ric* (-pyōr'ik) adj.

pur'pu-rin (pūr'pyə-rin') n. A reddish crystalline compound,

C₁₄H₁₀O₂(OH)₃, used as a biological stain and commercial

dye. [Lat. *purpura*, purple; see *PURPLE* + *-in*.]

purr (pūr) n. 1. The soft vibrant sound made by a cat. 2. A

sound similar to that made by a cat. — v. *purred*, *purr-ing*,

purs. — intr. To make or utter a purr. — tr. To express by a

purr. [Imit.]

purse (purs) n. 1. A woman's bag for carrying personal items;

a handbag. 2. A small bag or pouch for carrying money.

3. Something that resembles a bag or pouch. 4. Available

wealth or resources; money. 5. A sum of money collected as

a present or offered as a prize. — tr.v. *pursed*, *purs-ing*,

purs-es. To gather or contract (the lips or brow) into wrin-

cles or folds; pucker. [ME < OE < LLat. *bursa*. See *BURSA*.]

purs'er (pūr'sər) n. The officer in charge of money matters on

a ship or commercial aircraft. [ME < *purse*, *purse*. See *PURSE*.]

purse seine n. A fishing seine that is drawn into the shape of

a bag to enclose the catch.

purse strings or *purse strings* (purs'strinz') pl.n. Financial

support or resources, or control over them.

pur-slane (purs'lin, -lān') n. A trailing Asian weed (*Portulaca*

oleracea) having small yellow flowers, reddish stems, and

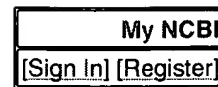
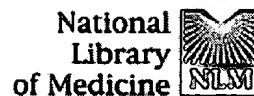
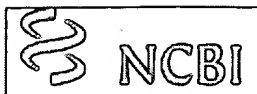
fleshy obovate edible leaves. [ME < AN **purcelane*, altera-



Purple Heart

ā pat	oi boy
ā pay	ou out
ār care	ōō took
ē pet	ū boot
ē be	ūr urge
ī pit	th thin
ī ple	th this
ir pler	hw which
ō pot	zh vision
ō toe	a about
ō paw	item

Stress marks:
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1: AIDS. 1998 Dec 3;12(17):F225-34.

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Randomized, controlled phase II trial of subcutaneous interleukin-2 in combination with highly active antiretroviral therapy (HAART) in HIV patients.

Hengge UR, Goos M, Esser S, Exner V, Dotterer H, Wiehler H, Borchard C, Muller K, Beckmann A, Eppner MT, Berger A, Fiedler M.

Department of Dermatology and Venerology, University of Essen, Germany.





OBJECTIVE: To determine the immunological, virological and clinical effects of subcutaneous IL-2 in 44 HIV-patients in conjunction with pre-existing tri-therapy (zidovudine, 3TC, saquinavir). **DESIGN:** Partially randomized, controlled, prospective trial. **SETTING:** Single center study at tertiary care center. **PATIENTS:** Sixty four patients (CD4 count 200-500 x 10(6)/l). **INTERVENTION:** Fourty four patients were randomized to receive 5-day cycles of IL-2 (9 Mio IU/d) every 6 weeks (Group A) or whenever the CD4 cell count dropped below the 1.25-fold of baseline (Group B), whereas 20 control patients received the same HAART without IL-2. **Outcome measures:** The optimal individual treatment interval and the immunological and virological effects of subcutaneously administered IL-2 were analysed. Importantly, the level of cellular in vivo immunity and the frequency of dermatological marker diseases and infectious complications were assessed. **RESULTS:** IL-2 was well tolerated although fever, influenza-like symptoms and indurated injection sites were commonly encountered. After 1 year of IL-2, there was a median increase of more than 100 x 10(6)/l CD4 cells in both IL-2 groups in contrast to the controls ($P < 0.01$, 0.01 and not significant). The median HIV load did not increase either in plasma or in lymph nodes. Lymphocyte activation decreased as assessed by MHC class II ($P < 0.001$), CD25 ($P < 0.001$) and CD38 expression ($P < 0.005$). Although delayed type hypersensitivity against common recall antigens increased in both IL-2 groups, it did not reach statistical significance. However, it is of note, that in 7 of 11 (63.6%) patients delayed type hypersensitivity against recombinant HIV antigens improved significantly. Whereas there was no opportunistic infection in either IL-2 group, three cases of Kaposi's sarcoma occurred in the controls. Dermatological indicator diseases (thrush, condyloma, herpes simplex) were found to occur more frequently in the control group. **CONCLUSIONS:** Subcutaneous IL-2 in addition to HAART was safe and led to sustained qualitative and quantitative immunological improvements in the majority of patients. Individualisation of therapy intervals further improved the efficacy and tolerance of IL-2.

Publication Types:

- o Clinical Trial
- o Clinical Trial, Phase II

- Randomized Controlled Trial

PMID: 9863864 [PubMed - indexed for MEDLINE]

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